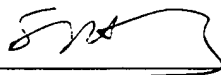


circuit is laid out differently, Figure 3 drawn by Mr. Johannes is essentially the same as Figure 3 submitted herewith. It is true that on the Figure 3 submitted herewith there are inverters shown on the outputs of the NAND gates 68, 78, 88, 98, 108, 118, 128 and 138, which inverters are not mentioned in the specification. For purposes of understanding the invention, it is immaterial whether the inverters are included or not. They are not specifically called out or discussed in the specification as they are not required. A declaration from Mr. Johannes is enclosed, establishing that he relied only on the specification, without Figure 3, to construct his rendering of Figure 3.

Entry of Figure 3 is therefore requested.

Respectfully submitted,



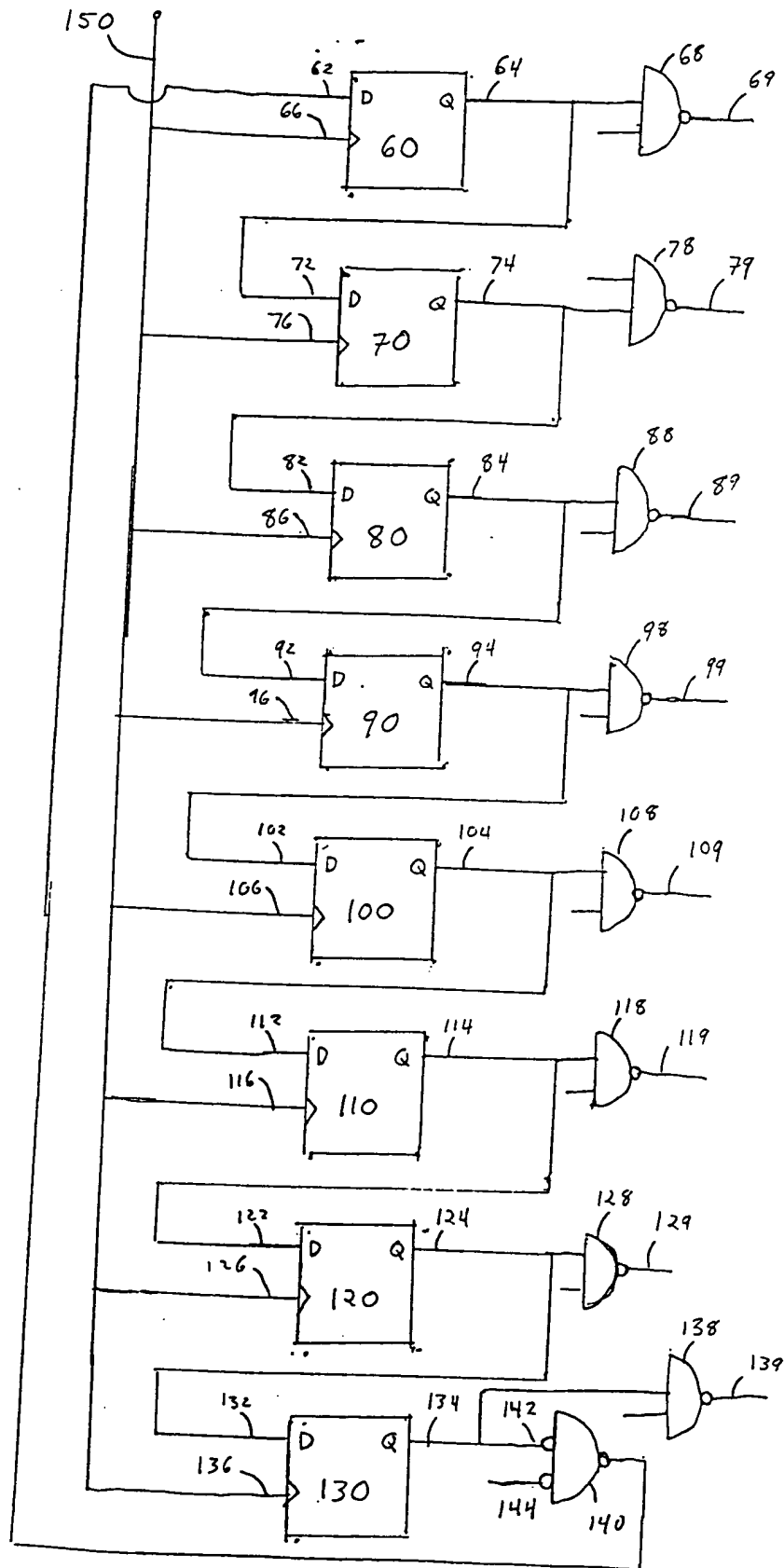
---

Steven J. Henry  
Reg. No. 27,900  
Wolf, Greenfield & Sacks, P.C.  
600 Atlantic Avenue  
Boston, MA 02210-2211  
(617)720-3500

Docket No.: G0631/7020  
Date: December 6, 2001

x1/21/02

FIG. 3 / EXHIBIT 2



ATTORNEY'S DOCKET NO. G0631/7020 SJH

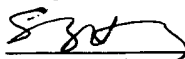
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Derek John Hummerston et al  
Serial No: 09/982,491  
Filed: October 18, 2001  
For: PROGRAMMABLE CONVERTER HAVING AN AUTOMATIC CHANNEL SEQUENCING MODE  
Examiner: --  
Art Unit: 2661

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Commissioner for Patents, Washington, D.C. 20231, on the 6 day of December, 2001.



  
Steven J. Henry  
Reg. No. 27,900

COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

Sir:

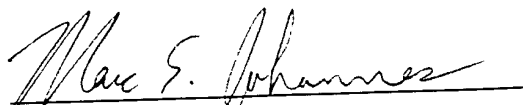
**DECLARATION OF MARC S. JOHANNES**

I, Marc S. Johannes, hereby declare and state that:

1. I am employed by the law firm of Wolf, Greenfield & Sacks, P.C. as a technology specialist.
2. A true copy of my resume is attached hereto as **Exhibit 1**, reflecting my educational and work experience prior to joining Wolf, Greenfield & Sacks, P.C.
3. A few days ago, Steven J. Henry, a shareholder in Wolf, Greenfield & Sacks, P.C., presented to me a copy of the U.S. Patent Application No. 09/982,491 exclusive of the Figure 3 discussed therein. Mr. Henry asked me to read the application and draw what I believed Figure 3 to be, without recourse to other materials. I did so and produced the drawing attached hereto and labeled as Fig. 3/**Exhibit 2**.

4. In preparing Fig. 3/**Exhibit 2**, I referred to nothing except the patent application itself (lacking Figure 3).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

  
Marc S. Johannes

12/06/2001  
Date

Docket No.: G0631/7020  
Date: December \_\_, 2001

x1/21/02

# Marc S. Johannes

Marc\_Johannes@brown.edu

**CATION:** Tufts University, College of Engineering; B.S. Computer Engineering '97 Graduated Magna Cum Laude  
Brown University, College of Engineering; M.S. Electrical Engineering 01'

## DESIGN AND RESEARCH PROJECTS

### Computer Vision and Shape Modeling – 2000 (Current Research)

Research involves recognizing and understanding objects in images by shape. Using a symmetry set technique an image is converted from an intensity map into a new representation that is object based, consisting of a set of skeletons or shock graphs created from propagating discrete waves from edges or boundaries detected in the image. This model maintains exhaustive surface description, including intensity, in a compact and intrinsic structure and provides a useful 'grammar' for describing shape. Techniques are being developed to allow for manipulation of these symmetry sets to enable shape transformations of a non-Euclidean nature, i.e. bending, stretching, and addition and deletion of parts and elevation to 3D.

### Component Object Model Interface to Microsoft's new Windows Imaging Architecture (WIA) – 1998

Selected to go to Microsoft to extend Scansoft's internal API (see below) to include a new image acquisition architecture being developed at Microsoft Corporation. The project included extending our acquisition abstraction layer to include this new COM based protocol. The work was presented at the WIA conference to demonstrate how the technology could be integrated into commercial imaging applications.

### Speaker Recognition Research – 1997

Designed, developed and implemented algorithms to extract and analyze characteristics of voice signals to accurately identify and distinguish between vocal patterns that make each person's voice unique. The purpose of the project was to develop a reliable system that would allow automatic recognition of an individual's voiceprint. Possible applications include an automated voice recognition security system.

## WORK EXPERIENCE

Soft Inc, Peabody Massachusetts

May 1997 - July 1999

Member of design and development team responsible for the image acquisition, *Image Processing (IP)* and *Optical Character Recognition (OCR)* API utilized by two of Xerox's software products; TextBridge and Pagis. The API maintains an abstraction layer for the Xerox developed OCR and IP engines, a complete interface compliant with the three industry scanning protocols. ISIS, TWAIN and WIA, and a complete set of image and text format conversion classes, most important being that of the Xerox Image File Format (XIFF).

- Responsibilities: Software design and development of above mentioned Application Programming Interface. Continued enhancement and improvement to architecture in order to insure proper integration of continued advancements and added functionality of the OCR and IP engines. Migration of API to encompass new industry technology such as the Component Object Model (COM) and ActiveX.

Xerox Imaging Systems, Peabody Massachusetts

1996-1997

Worked with the development team responsible for the innovation of the *Optical Character Recognition* engine.

- Responsibilities: Developed testing procedures to optimize results of Xerox's *Optical Character Recognition (OCR)* engine. This included statistical analysis of degradation due to noise, various thresholding techniques, skewing and orientation, and improvements achieved from pre-OCR image processing such as noise removal, despeckle and edge sharpening, to the use of training data, character verification and recognition voting schemes. These results were used to determine how to best approach the recognition and recomposition of various document classes such as faxes, newspaper articles, and magazine pages and to establish the best methods to produce fully OCR'd documents with the greatest character accuracy and format retention.

### Development Platforms:

NT/Win9x  
UNIX

### Industry CS Skills:

C/C++  
Java/Java3D  
COM/ActiveX

### Relevant Tools:

MS Developer Studio  
MATLAB  
OpenGL

### Organizations and Involvement

IEEE  
Teaching Assistant – Image Processing  
Leonard Carmichael Society

### Interest/Hobbies

Film Noir / Independent Film  
Martial Arts  
Woodworking

Curriculum Vitae: Marc Stephen Johannes